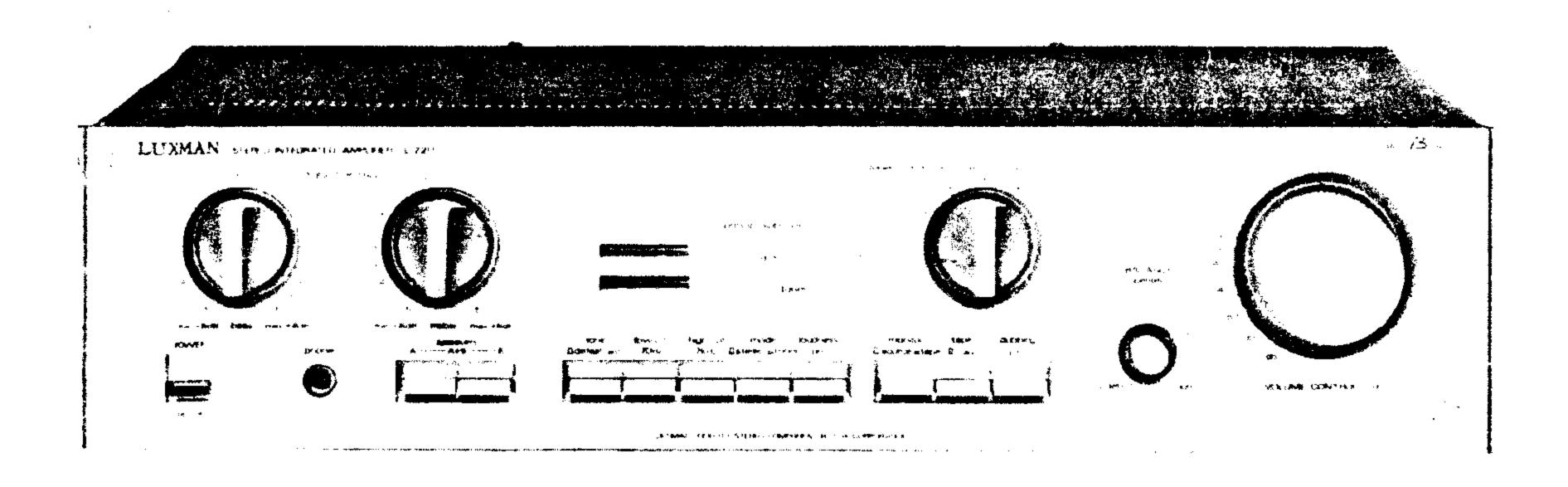
SERVICE MANUAL

DUO-BETA CIRCUIT STEREO INTEGRATED AMPLIFIER

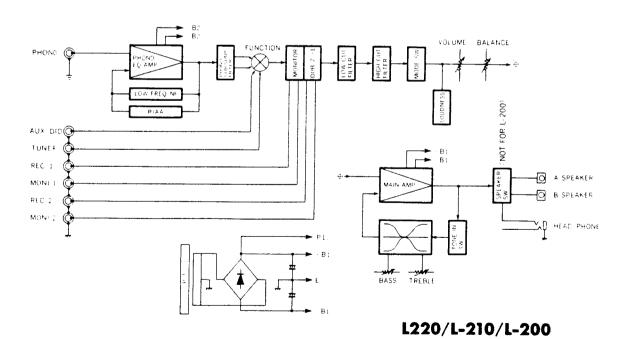
L-200
L-210
L-220



CONTENTS

| Block Diagram | | | |
|--------------------------------|---|---|---|
| Adjustment Procedure | 2 | | |
| Packing Material Parts List | 2 | | |
| Exploded Parts List | 3 | _ | 5 |
| Pre Main AMP PCB Parts List | 6 | _ | 3 |
| Tone Control PCB Parts List | 8 | | |
| Function SW PCB Parts List | 8 | | |
| VR Control PCB Parts List | 9 | | |
| HD Phone PCB Parts List | 9 | | |
| Balance Control PCB Parts List | 9 | | |
| Semiconductor Handling Guide | 9 | | |
| Schematic Diagram1 | | | |
| Specifications1 | | | |

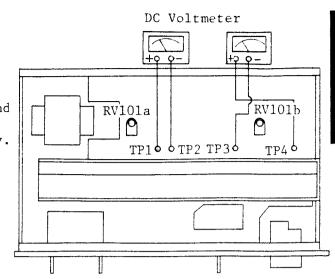
Block Diagram



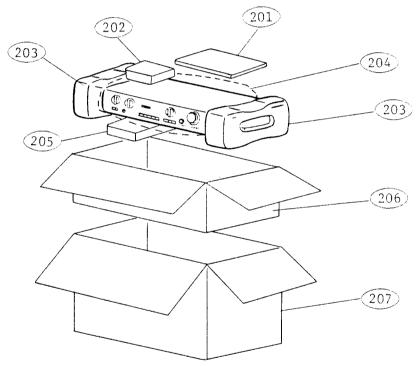
Adjustment Procedure

Bias (Idle) Current Adjustment

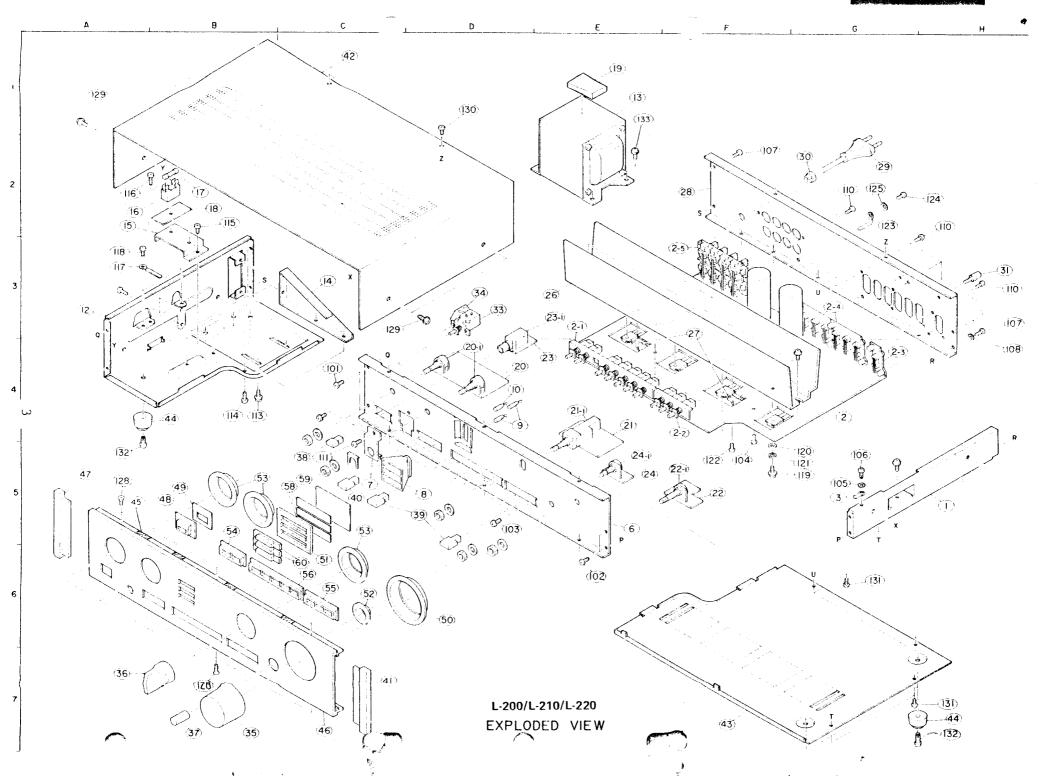
- Connect a DC Voltmeter in between TP1 and TP2 on L-ch and or TP4 and TP3 on R-ch, Making TP1 and TP4 positive respectively.
- 2. Adjust the RV101a and RV101b to obtain $15\,\mathrm{mV} + 5\,\mathrm{mA}$ reading on the meter.



Packing Material Parts List



| Symbol No. | Stock No. L200 | Stock No. L210 | Stock No. L200 | Description |
|------------|-------------------|----------------------|-------------------|-----------------|
| 201 | ME0253-2 | ME0253-2 | ME0253-2 | Owner's Manual |
| 202 | 56A58581F01 | 56A58581F01 | 56A58581F01 | Pad,PKG |
| 203 | 56C56637F01 | 56C56637F 0 1 | 56C56637F01 | PKG, Tray |
| 204 | 56B40230G23 | 56B40230G23 | 56B40230G23 | Sack, Poly |
| 205 | 56A57423F04 | 56A57423F04 | 56A57423F04 | Pad,PKG |
| 206 | 56C53420F35 | 56C53420F34 | 56C53420F25 | Carton, PKG |
| 207 | 56C53420F26 | 56C53420F26 | 56C53420F26 | Carton,Bulk PKG |



Exploded Parts List

| Index | - | Stock No. | Stock No. | Stock No. | Description | |
|------------|-----|-------------|-------------|-------------------|---|--------------|
| | No. | L-220 | L-210 | L-200 | | |
| H-5 | 1 | 07B50033F01 | 07B56633F01 | 07B56633F01 | Bkt,R | (0**) |
| G-4 | 2 | 01V58500F04 | 01V58400F20 | 01V58100F04 | Ass'y, Pre M/A PCB | (SK) |
| | | 01V58200F29 | 01V58500F06 | 01V58400F13 | Ass'y, Pre M/A PCB | (EK) |
| | | | 01V58800F29 | | Ass'y, Pre M/A PCB | (SD) |
| _ | | | 01V59100F96 | / OFF ((F OF O) | Ass'y, Pre M/A PCB | (UP) |
| E-3 | | 40T56667F01 | 40T56667F01 | 40T56652F01 | SW, Push | |
| F-3 | | 40T56653F01 | 40T56653F01 | 40T56653F01 | SW, Push SUN33 (SW101-103) | |
| G-4 | | 09T57203F01 | 09T57203F01 | 09T57203F01 | Plate, Phone 2P (E101) | |
| G-3 | | 09T57203F02 | 09T57203F02 | 09T57203F02 | Plate, Phone 6P (E102,103) | |
| F-3 | i e | 09T51101F01 | 09T51101F01 | 09T51101F01 | Terminal, SP (E104) | |
| G-5 | 3 | 29A41814G01 | 29A41814G01 | 29A41814G01 | Lug | |
| E-5 | 6 | 27C56631F01 | 27C56631F01 | 27C56631F01 | Chassis, Front | |
| C-5 | 7 | 07A57048F01 | 07A57048F01 | 07A57048F01 | Bkt, Phones | |
| D-5 | 8 | 43A56651F01 | 43A56651F01 | 43A56651F01 | Bushing, Rubber | |
| | | 91A57951F01 | 91A57951F01 | 91A57951F01 | Filter 1035 | |
| D-4 | 9 | 65T56669F01 | 65T56669F01 | 65T56669F01 | Lamp, Pilot (Aux, Tuner) | |
| D-4 | | 65T56669F02 | Non Use | Non Use | Lamp, Pilot Grn (Phono) | |
| A-3 | | 07C56632F01 | 07C56632F01 | 07C56632F01 | Bkt, Trans | (55) (55) |
| E-1 | 13 | 25T56586F01 | 25T56586F01 | 25T56586F01 | Trans, Power 210S | (SK)(SD) |
| | : | 25T56587F01 | 25T56587F01 | 25T56587F01 | Trans, Power 210E | (EK) |
| • | | | 25T56588F01 | | Trans, Power | (UP) |
| C-3 | 14 | 07B57267F01 | 07B57267F01 | 07B57267F01 | Bkt,Trans | |
| A-2 | 15 | 07A56634F01 | 07A56634F01 | 07A56634F01 | Bkt,Fuse | |
| A-2 | 16 | 09T51074F01 | 09T51074F01 | 09T51074F01 | Holder, Fuse | (SK)(SD) |
| | | 09T51828F01 | 09T51828F01 | 09T51828F01 | Holder, Fuse | (EK)(UP) |
| B-2 | 17 | 65T42077U17 | 65T42077U17 | 65T42077U17 | Fuse,Semko | (SK)(SD) |
| | ! | 65T52486F18 | 65T52486F18 | 65T52486F18 | Fuse MF61NM 2A | (EK) |
| | | | 65T52486F10 | | Fuse | (UP) |
| B-2 | 18 | 43A51453F01 | 43A51453F01 | 43A51453F01 | Spacer, Fuse | (SK)(SD) |
| E-1 | | 43A51798F02 | 43A51798F02 | 43A51798F02 | Spacer,1154-2 | |
| D-4 | | 01V58100F06 | 01V58100F06 | 01V58100F06 | Ass'y,Tone Cont.PCB | |
| D-4 | | 18T56663F01 | 18T56663F01 | 18T56663F01 | VR, Rotary 50KCx2 (RV201,202) | |
| E-4 | | 01V58100F95 | 01V58100F07 | 01V58100F07 | Ass'y, Function SW PCB | |
| E-4 | | 40T56664F01 | 40T56664F01 | 40T56664F01 | SW,Rotary SRZ (S301) | |
| F-5 | | 01V58100F08 | 01V58100F08 | 01V58100F08 | Ass'y, VR Cont.PCB | |
| F-5 | | 18T56666F01 | 18T56666F01 | 18T56666F01 | VR,Rotary 250KW (RV601) | |
| E-4 | | 01V58100F09 | 01V58100F09 | 01V58600F19 | Ass'y, HD Phone PCB | |
| E-3 | • | 09T56010F01 | 09T56010F01 | 09T55174F01 | Jack, HD Phone | |
| E-5 | i . | 01V58100F10 | 01V58100F10 | 01V58100F10 | Ass'y,Balance Cont.PCB | |
| E-5 | | 1 | 18T56665F01 | 18T56665F01 | VR, Rotary 100KBx2 (RV401) | |
| E-3 | : | 07C56635F01 | 07C56635F01 | 07C56635F01 | Heat Sink | |
| F-3 | 1 | 07R51146F01 | 07R51146F01 | 07R51146F01 | Support, Tr. | |
| F-2 | 1 | 15C56636F05 | 15C56623F02 | 15C56636F01 | Cover, Rear | (SK) |
| 1 4 | 20 | 15C56636F06 | 15C56636F04 | 15C56636F02 | Cover, Rear | (EK)(UP) |
| | | | 15C56636F03 | | Cover, Rear | (SD) |
| G-2 | 29 | 28T43812P02 | 28T43812P02 | 28T43812P02 | Plug, AC Cord | (SK)(EK)(SD) |
| 0-2 | | 20143012102 | 28T55335F01 | | Plug, AC Cord | (UP) |
| G-2 | 30 | 43B41625J02 | 43B41625J02 | 43B41625J02 | Support, Cord | |
| H-3 | 1 | 09T51075F01 | 09T51075F01 | 09T51075F01 | Terminal, GND | |
| n-3 D-3 | • | 40T57580F01 | 40T57580F01 | 40T57580F01 | SW, Power SDGA 1P | |
| D-3 | 1 | 08T57437F09 | 08T57437F09 | 08T57437F09 | Cap,MP 0.01 | |
| | 1 | 36B56627F01 | 36B56627F01 | 36B56627F01 | Knob, Rotary VR C | |
| B-7 | 1 | 36B56626F01 | 36B56626F01 | 36B56626F01 | Knob, Rotary VR B | |
| A-7 | | 36A56625F01 | 36A56625F01 | 36A56625F01 | Knob, Rotary VR A | |
| B-7 | | | 36A56639F02 | 36A56639F02 | Knob, Push 1171 | |
| C-5 | 38 | 36A56639F02 | 20K20025105 | 1 301130033102 | , | |

| Index | 1 1 | Stock No. | Stock No. | Stock No. | Description | |
|----------------|--------|----------------------------|----------------------------|------------------|---------------------|--|
| | No. | L-220 | L-210 36A56640F01 | L-200 Non Use | Knob, Push 1189 | |
| D-5 | ! | 36A56640F01 | 36A56640F01 | Non Use | Knob, Push 1189 | |
| G-5 | 1 . | 36A56640F01 | 07B56624F02 | 07B56624F02 | Frame, Panel-R | |
| C-7 | i : | 07B56624F02 15C56629F01 | 15C56629F01 | 15C56629F01 | Cover, Top | |
| C-1 F-7 | | 15C56630F01 | 15C56630F01 | 15C56630F01 | Cover, Bottom | |
| -4/F-7 | | 75A52969F01 | 75A52969F01 | 75A52969F01 | Pad, Trannleg | |
| | * | 14S53018F42 | 14S53018F42 | 14S53018F42 | Insulator,50x5 | |
| A-5 C-7 | ; | 64C56623F03 | 64C56623F02 | 64C56623F01 | Panel, Front | |
| A-5 | | 07B56624F01 | 07B56624F01 | 07B56624F01 | Frame, Panel Side-L | • |
| B-5 | | 61A56641F01 | 61A56641F01 | 61A56641F01 | Crvstal, Indicator | |
| B-5 | | 43A56628F01 | 43A56628F01 | 43A56628F01 | Spacer, Power | |
| | 1 | 07B56643F01 | 07B56643F01 | 07B56643F01 | Frame, Knob 1140 | |
| D-6 C-6 | 1 | 43A56644F01 | 43A56644F01 | 43A56644F01 | Spacer, Frame Knob | |
| | ! | 07A56645F01 | 07A56645F01 | 07A56645F01 | Frame, Knob 1156 | |
| C-6 | | 07A56648F01 | 07A56648F01 | 07A56648F01 | Frame, Knob | |
| 8-5/C-5 B-5 | | 07C56907F01 | 07A56907F01 | Non Use | Frame, Knob 1153 | |
| 2 | ! | 07B56646F01 | 07B56646F01 | 07B56646F01 | Frame, Knob 1154 | |
| ່ 0+6 C−6 | 1 | 07C56647F01 | 07C56647F01 | 07C56647F01 | Frame, Knob 1155 | |
| | i i | | 61A56649F01 | 61A56649F01 | Filter, Lamp | |
| C-5 | | 61A56649F01 43A56650F01 | 43A56650F01 | 43A56650F01 | Spacer, Lamp | |
| C-5 C-6 | i | 61A56642F01 | 61A56642F01 | 61A56642F01 | Crystal, Indicator | |
| | 1 | | 03S44205G01 | 03S44205G01 | Scr,T-Tite M3x6 | |
| C-4 | 1 | 03S44205G01 | 03844205G01 | 03S44205G01 | Scr,T-Tite M3x6 | |
| E-6 | 1 | 03S44205G01 | 03C40014G04 | 03C40014G04 | Scr,Mch.M3x6 | |
| D-5 | | 03C40014G04 | 03C40014G04 | 03S40036U02 | Scr,T-Tite M3x8 | |
| F-5 | | 03\$40036U02 | 04S40072G16 | 04S40072G16 | Wsr,T.L.M3 | |
| G+5 | | 04S40072G16 | 03C42723U01 | 03C42723U01 | Scr, Cup. M3x6 | |
| G-5 | | 03C42723U01 | 03C42723601 03S44205G02 | 03S44205G02 | Scr,T-Tite M3x6 | |
| F-2/H-3 | | 03S44205G02 | 03S44203G02 04S40072G16 | 04S40072G16 | Wsr,T.L. M3 | |
| H-4 | l | 04S40072G16 | 03S40072G10 | 03S40012G41 | Scr, Tpg. M3x8 | |
| G-2/H-3 | 1 | 03S40012G41 | 03S44205G01 | 03S44205G01 | Scr,T-Tite M3x6 | |
| C-5 | 3 | 03S44205G01 03C40014G04 | 03C40014G04 | 03C40014G04 | Ser, Mch. M3x6 | |
| E-5 | 1 | | 03S40036U01 | 03S40036U01 | Scr,T-Tite M4x8 | |
| B-4 | | 03S40036U01 03S44205G01 | 03S44205G01 | 03S44205G01 | Scr,T-Tite M3x6 | |
| B-4 | | 03S44205G01 | 03S44205G01 | 03S44205G01 | Scr,T-Tite M3x6 | |
| B-2 | | 03844205G03 | 03S44205G03 | 03S44205G03 | Scr,T-Tite M3x8 | |
| A-2 | | 29C41045P02 | 29C41045P02 | 29C41045P02 | Lug, W. Around | (EK) |
| A-3 | 3 117 | 29C41045P03 | 29C41045P03 | 29C41045P03 | Lug, W. Around | (SK)(SD) |
| ۸ ၁ | 110 | 03S44205G01 | 03S44205G01 | 03S44205G01 | Scr,T-Tite M3x6 | |
| A-3 | | 03S40011G32 | 03S40011G32 | 03S40011G32 | Scr,Mch M3x12 | |
| G-5 | i | 04\$40070G05 | 04S40070G05 | 04S40070G05 | Wsr,3.3x8x0.5 | |
| G-5 | 3 | 04S40070G05 | 04S40071G05 | 04S40071G05 | Wsr,3.1x5.9x0.7 | |
| G-5 | i | 03S40012G28 | 03S40012G28 | 03S40012G28 | Scr, Tpg. M3x8 | |
| F-5 | | 29A737272-A | | 29A737272-A | Lug, Q. Around | |
| G-2 | 1 | i | 03S44205G02 | 03S44205G02 | Scr,T-Tite M3x6 | |
| H-2 | } | 03S44205G02 | 04S40072G16 | Non Use | Wsr,T.L. M3 | |
| G-2 | i i | 04S40072G16 | 04540072G10 03S44205G16 | 03S44205G16 | Scr,T-Tite M3x6 | |
| A-5/B-7 | | 03\$44205G16 | 03S44203G10 | 03S40036U01 | Scr,T-Tite M4x8 | |
| A-1/C-3 | 1 | 03S40036U01 | | 03S44205G38 | Scr,T-Tite M3x6 | |
| D-1 | 1 | 03S44205G38 | 03S44205G02 | 03S44205G02 | Scr, T-Tite M3x6 | |
| G-6/H-7 | | 03S44205G02 | | 03S44205G25 | Scr, T-Tite M4x10 | |
| A-5/H-7 | 1 | 03S44205G25 | 03S44203G23 | 03S40036U01 | Scr,T-Tite M4x8 | |
| E-] | | 03840036001 | 1 03340030001 | 103040030001 | 1002,000 | |
| | *** | AC outlet | 09T57066F01 | 09T57066F01 | Outlet,AC | (EK) (UP) |
| | 1.4.4. | 09T57066F01 | | 107137000101 | 1 000000 | and the second s |
| | *** | Voltage Sel | 09T51830F01 | 09T51830F01 | Plug.SW P-2120 | (EK) |
| | | 09T51830F01 09T51831F01 | 09151830F01 09T51831F01 | 09T51831F01 | Socket. SW M-1615 | (EK) |
| | | | | | | |

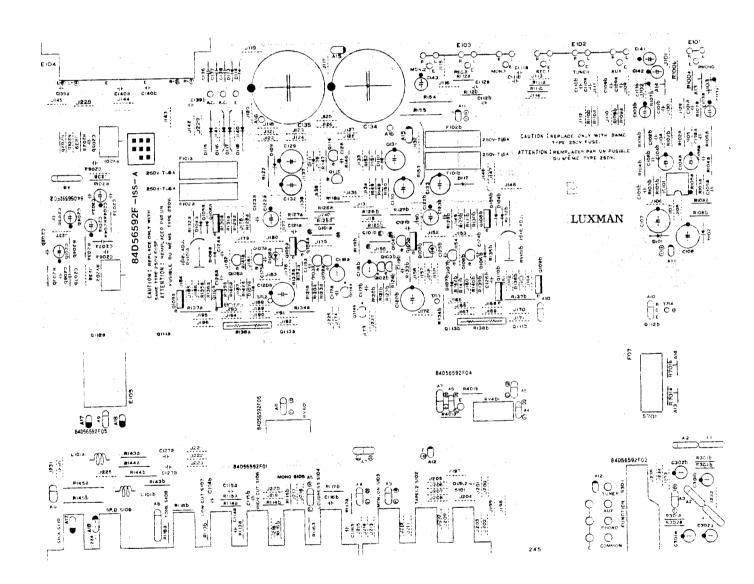
Remarks

Capacitor: El...Electrolytic, Ce...Ceramic, Pe...Polyethylene

My...Mylar

Resistor: Rd...Carbon, Rm...Metal Film, Rc...Cement

Pre Main AMP PCB Parts List



Pre Main AMP PCB Parts List

| Symbol No. | Stock No. | Description |
|--------------|-----------------|---|
| Switch, Pus | h) | |
| W101-103 | 40T56653F01 | SUN33 |
| 3W104-108 | 40T56652F01 | SUN53 (L-200) |
| 3W104-110 | 40T56667F01 | SUN73 (L-210/220) |
| (Terminal) | | |
| 2101 | 09T57203F01 | Plate, Phono 2P |
| E102 | 09T57203F02 | Plate, Phono 6P |
| 1 | 1 | Plate, Phono 6P |
| E103 | 09T57203F02 | Terminal, SP |
| 5104 | 09T51101F01 | Terminar, or |
| (Fuse) | | 0 i m1 (4 (CV) (CD) |
| F101a,b | 65T42077U18 | Semko T1.6A (SK)(SD) |
| | 65T57086F09 | Fuse (EK) |
| F102a,b | 65T42077U18 | Semko T1.6A (SK)(SD) |
| | 65T57086F09 | Fuse (EK) |
| (Holder, Fus | e) | |
| F101a,b | 09T51410F01 | Holder, Fuse |
| F102a,b | 09T51410F01 | Holder,Fuse |
| (Coil) | | |
| L101a,b | 24T51105F02 | Coil,Choke |
| | ariable) | , |
| | | 470-В |
| RV101a,0 | | 7/0_0 |
| (Transistor | | 2C1070_C |
| Q101a,b | 48T53430F01 | 2SA979-G |
| Q102a,b | 48S43525F02 | 2SC1815Y |
| Q103a,b | 48S43525F02 | 2SC1815Y |
| Q104a,b | 48S43525F02 | 2SC1815Y |
| 0105a,b | 48T56658F01 | 2SC1940 B,V |
| Q106a,b | 48S43525F02 | 2SC1815Y |
| ·0107a,b | 48T51118F01 | 2SA1015Y |
| 0108a,b | 48T56657F01 | 2SA899 B,V |
| | 48T56660F03 | 2SC2824-0,Y |
| Q109a,b | | 2SA1184-0,Y |
| 0110a,b | 48T56659F03 | 2SC1845 F,A |
| Qllla,b | 48T47682F02 | |
| Q112a,b | 48T57130F03 | 2SC3180-0,R |
| Q113a,b | 48T57129F03 | 2SA1263-0,R |
| 0114a,b | 48T51539F01 | FET,2SK117Y |
| Q114 | 48T57682F02 | 2SC1845F,A |
| Q115 | 48S43525F02 | 2SC1815Y |
| (Diode) | | |
| D101 | 48T52741F54 | HZ18-3L Zener |
| D102 | 48T52741F54 | HZ18-3L Zener |
| D104a,b | 48T51117F01 | 181553 |
| | | 181553 |
| D105a h | 48T51117F01 | 181553 |
| D106 | 48T51117F01 | 1 |
| D107a,D | 48T51117F01 | 181553 |
| R108a,b | 48T40955T01 | TLR124 Red LED |
| D109 | 48T52741F62 | HZ24-2L Zener |
| D110 | 48T51117F01 | 1 S 1553 |
| D111 | 48T44992F01 | DS135D |
| D112 | 48T52741F59 | HZ22-2L Zener |
| D113 | 48T44992F01 | DS135D |
| D114 | 48T44992F01 | DS135D |
| D115 | 48T51115F02 | S3V20 |
| | 48T51115F02 | \$3V20 |
| D116 | | S3V20 |
| D117 | 48T51115F02 | · · |
| D118 | 48T51115F02 | S3V20 |
| (IC) | | Twn(20/2B B |
| 1C101 | 51T52153F01 | NJM2043D-D |
| (Capacitor |) | () |
| C101a,b | O8T42081U01 | 100pF Pe (EK)(SK) |
| | 08T42081U13 | Pe (L210,SD) |
| C102a,b | 08\$40805F11 | 0.0022uF Ce (L210,SD) |
| C103a,b | 23T51235F24 | 22uF 16V E1 |
| C104a,b | 2 3T44501P08 | 3.3uF 25V E1 |
| C104a,b | 08\$40656F22 | 0.056uF My |
| (TO)a,D | 1 0004000001 22 | |

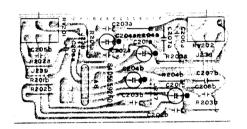
| Symbol No. | Stock No. | Descripti | lon |
|-------------------------------|---|-------------|--------------------|
| (Capacitor) | | | |
| C106a,b | 08S40656F15 | 0.015uF | My |
| C107 | 23T51234F54 | 220uF | 25V E1 |
| C108 | 23T51234F54 | 220uF | 25V E1 |
| C109a,b | 08T42081U01 | 100pF | St (L210,SD) |
| C110a,b | 08T42081U01 | 100pF | St (L210,SD) |
| Cllla,b | 08T42081U01 | 100pF | St (L210,SD) |
| C112a,b | 08T42081U01 | 100pF | St (L210,SD) |
| C114a,b | 08S40656F22 | 0.056uF | My |
| C115a,b | 08S40656F10 | 0.0056uF | My |
| C116a,b | 08S40656F21 | 0.047uF | My |
| C117a,b | 08T42081U01 | 100uF | Pe |
| C118a,b | 23T44501P08 | 3.3uF | 25V E1 |
| C119a,b | 08S40656F06 | 0.0027uF | My |
| C120a,b | 23T51234F48 | 100uF | 50V E1 |
| C121a,b | 08C42195G15 | 33pF | 125V Pe |
| C122a,b | 23T51235F43 | 100uF | 10V E1 |
| C123a,b | 21S40655F06 | 5pF | Ce |
| C124a,b | 08S40656F05 | 0.0022uF | |
| C125a,b | 08S40656F05 | 0.0022uF | |
| C126a,b | 08S40656F01 | 0.001uF | My |
| C120a,b | 08S40656F21 | 0.047uF | My |
| C127a, B | 08S40656F01 | 0.001uF | My |
| C128 | 23T51234F48 | 100uF | 50V E1 |
| l . | 23T51235F41 | 47uF | 60V E1 |
| C130 | 23T51235F27 | 22uF | 50V E1 |
| C131 | 23T51235F39 | 47uF | 25V E1 |
| C132 | 23T51235F40 | | 35V E1 |
| C133 | 23T56654F01 | 10000uF | 50V E1 |
| C134 | 23T56654F01 | 10000uF | 50V E1 |
| C135 | 08S44505P61 | 0.01uF | Ce (L210,SD) |
| C136 C137 | 08S44505P61 | 0.01uF | Ce (L210,SD) |
|) | 08S44505P61 | 0.01uF | Ce (L210,SD) |
| C138 | 23T51235F16 | 1 | 16V El |
| C141 C142 | 23T51235F16 | 10uF | 16V E1 |
| C142 | 23T51235F16 | 10uF | 16V E1 |
| (Resistor) | | | |
| R101a,b | 06S44593P53 | 330 | 1/4W Rd (L210,SD) |
| R102a,b | 06S44594P08 | 56K | 1/4W Rd |
| R103a,b | 06S44594P08 | 56K | 1/4W Rd |
| R104a,b | 06S44593P81 | 4.7K | 1/4W Rd |
| R105a,b | 06S44594P38 | 1M | 1/4W Rd |
| R106a,b | 06S44593P29 | 33 | 1/4W Rd |
| R107a,b | 06S44593P37 | 68 | 1/4W Rd |
| R108a,b | 06S44593P57 | 470 | 1/4W Rd |
| R109a,b | 06S44593P38 | 1M | 1/4W Rd |
| R110a,b | 06S44594P38 | 1M | 1/4W Rd |
| Rilla,b | 06S44594P38 | 1M | 1/4W Rd |
| R111a,b | 06S44594P38 | 1M | 1/4W Rd |
| R113a,b | 06844594P38 | 1M | 1/4W Rd |
| R114a,b | 06S44594P38 | 1M | 1/4W Rd |
| R115a,b | 06S44593P75 | 2.7K | 1/4W Rd |
| R115a,b | 06S44593P75 | 2.7K | 1/4W Rd |
| R117a,b | 06S44593P89 | 10K | 1/4W Rd |
| | 06S40151T36 | 820K | 1/4W Rd |
| R118a R118b | 06S44594P36 | 820K | 1/4W Rd |
| R119a,b | 06S44594P36 | 820K | 1/4W Rd |
| R119a,b R121a,b | 06544593P49 | | 1/4W Rd |
| R1214, B | 06T55177F75 | 2.7K | 1W Rm |
| R123a,b | 06S44594P22 | | 1/4W Rd |
| 1 10 14 30 10 | | 1 | |
| - 1 | | 330K | 1/4W Rđ |
| R124a,b | 06S44593P53 | | 1/4W Rd 1/4W Rd |
| R124a,b R125a,b | 06S44593P53 06S44594P08 | 56K | 1/4W Rd |
| R124a,b R125a,b R126a,b | 06S44593P53 06S44594P08 06S44593P87 | 56K 8.2K | |
| R124a,b R125a,b | 06S44593P53 06S44594P08 | 56K | 1/4W Rd 1/4W Rd |

| Symbol No. | Stock No. | Descripti | on | |
|------------|-------------|-----------|---------------|----|
| (Resistor) | | | | |
| R129a,b | 06S44594P06 | 47K | 1/4W | Rd |
| R130a,b | 06S44593P99 | 27K | 1/4W | Rd |
| R131a,b | 06S44593P99 | 27K | 1/4W | Rd |
| R132a,b | 06T55175F47 | 180 | 1/2W | Rm |
| R133a,b | 06T55175F17 | 10 | 1/2W | Rm |
| R134a,b | 06T55175F27 | 27 | 1/2W | Rm |
| R135a,b | 06S44593P73 | 2.2K | 1/4W | Rd |
| R136a,b | 06S44593P61 | 680 | 1/4W | Rd |
| R137a,b | 06T55177F55 | 390 | 1 W | Rm |
| R138a,b | 06T51107F01 | 0.22 | $5W \times 2$ | Rc |
| R139a,b | 06S44593P69 | 1.5K | 1/4W | Rđ |
| R140a,b | 06S44593P73 | 2.2K | 1/4W | Rd |
| R141a,b | 06S44593P73 | 2.2K | 1/4W | Rd |
| R142a,b | 06S44593P69 | 1.5K | 1/4W | Rd |
| R143a,b | 06T55175F17 | 10 | 1/2W | Rm |

| Symbol No. | Stock No. | Descrip | tion | | |
|------------|-------------|---------|------|----|-----------|
| R144a,b | 06T55177F17 | 10 | 1W | Rm | |
| R145a,b | 06T55179F57 | 470 | 2W | Rm | |
| R146 | 06S44593P85 | 6.8K | 1/4W | Rd | |
| R147 | 06S44593P33 | 47 | 1/4W | Rd | |
| R148 | 06S44593P93 | 15K | 1/4W | Rd | |
| R149 | 06S44594P18 | 150K | 1/4W | Rd | |
| R150 | 06S44594P08 | 56K | 1/4W | Rd | |
| R151 | 06S44594P08 | 56K | 1/4W | Rd | |
| R153 | 06T56661F51 | 270 | 3W | | |
| R154 | 06T55179F75 | 2.7K | 2W | Rd | |
| R155 | 06T55179F75 | 2.7K | 2W | | |
| R160a,b | 06S44593P45 | 150 | 1/4W | | (L210,SD) |
| R161a,b | 06S44593P45 | 150 | 1/4W | | (L210,SD) |
| R162a,b | 06S44593P45 | 150 | | | (L210,SD) |
| R163a,b | 06S44593P45 | 150 | 1/4W | Rd | (L210,SD) |

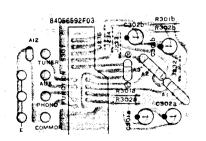
Tone Control PCB Parts List

| _ , , ,, | |
|----------------------|--|
| Stock No. | Description |
| esistor) | |
| 18T56663F01 | Rotary 50KCx2 |
| 18T56663F01 | Rotary 50KCx2 |
| | |
| 23T51235F11 | 47uF 25V E1 |
| 08 S 40656F11 | 0.0068uF My |
| 08 S 40656F20 | 0.039uF My |
| 23T51235F24 | 22uF 16V E1 |
| 21S40655F31 | 560pF Ce |
| 08S40656F22 | 0.056uF My |
| 08S44503P30 | 0.27uF 50V My |
| | |
| 06S44593P71 | 1.8K 1/4W Rd |
| 06S44593P53 | 330 1/4W Rd |
| 06S44593P87 | 8.2K 1/4W Rd |
| 06S44593P69 | 1.5K 1/4W Rd |
| | 18T56663F01 18T56663F01 23T51235F11 08S40656F11 08S40656F20 23T51235F24 21S40655F31 08S40656F22 08S44503P30 06S44593P71 06S44593P53 06S44593P87 |



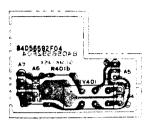
Function SW PCB Parts List

| Symbol No. | Stock No. | Descrip | tion | |
|-------------|-------------|---------|------|----|
| (Switch) | | | | |
| S301 | 40T56664F01 | Rotary | SRZ | |
| (Capacitor) | | | | |
| C301a,b | 23T44501P06 | 2.2uF | 35V | El |
| C3O2a,b | 23T44501P03 | 0.33uF | 50V | El |
| (Resistor) | | | | |
| R301a,b | 06S44594P30 | 470K | 1/4W | |
| R302a,b | 06S44594P30 | 470K | 1/4W | Rd |



VR Control PCB Parts List

| Symbol No. | Stock No. | Description | |
|---------------------|-------------|----------------|--|
| (Variable Resistor) | | | |
| RV401 | | Rotary 100KBx2 | |
| (Resistor) | | | |
| R401a,b | 06S44593P57 | 470 1/4W Rd | |



HD Phone PCB Parts List

| Symbol No | Stock No. | Description | |
|-----------|-------------|-------------|---------------|
| (Jack) | | | |
| E105 | 09T55174F01 | Head, Phone | (L200) |
| | 09T56010F01 | Head, Phone | (L220 & L210) |



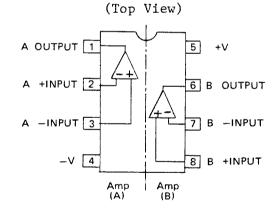
Baiance Control PCB Parts List

| Symbol No. | Stock No. | Description | | | |
|-------------|-------------|--------------|--|--|--|
| (Variable H | Resistor) | | | | |
| RV601 | 18T56666F01 | Rotary 250KW | | | |

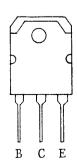


IC Handling Guide (NJM2043D-D)





Power Transistor 2SA1263 & 2SC3180 (Complementary Pair)



| Туре | MAX.RATING | | CHARACTERISTICS | | | | |
|---------|------------|------|-----------------|-----|-----|-----|-------------|
| | | | | hFE | | | |
| | Pc | Vceo | Ic | min | max | J | Vce |
| 2SA1263 | 60W | -80V | -6A | 55 | 160 | -1A | - 5V |
| 2SC3180 | 60W | 80V | 6A | 55 | 110 | 1A | 5 V |

(Tc=25 °C

Specifications

```
Power Output:
                                     50Wx2
                                              (L-220)
       80hms, 1KHz
                                     45Wx2
                                              (L-210)
                                     40Wx2
                                              (L-200)
 Distortion:
                                     0.02%
 Input Sensitivity:
      Phono (MM)
                                     1.8mV
      Tuner
                                     160mV
      Aux/DAD
                                     160mV
      Monitor
                                     160mV
 Input Impedance:
      Phono (MM)
                                     50Kohms
      Tuner
                                     40Kohms
      Aux/DAD
                                     40Kohms
      Monitor
                                     40Kohms
 S/N Ratio:
      Phono (MM)
                                     90dB
       (IHF-A weighted, 5mV)
      Tuner
                                     107dB
       (IHF-A weighted)
      Aux/DAD
                                     107dB
       (IHF-A weighted)
Residual Noise:
                                    0.5mV
Filter:
     High cut
                                    7kHz (-6dB/oct.)
      Low cut
                                    70Hz (-6dB/oct.)
     Phono-Subsonic
                                    15Hz (-6dB/oct.)
Phono (MM) Overload:
                                    130mV
Frequency Response:
     Phono (MM)
                                    20Hz-20kHz(within \pm 0.5dB)
     Tuner
                                    10Hz-100kHz(within +0, -1.5dB)
     Aux/DAD
                                    10Hz-100kHz (within +0, -1.5dB)
     Monitor
                                    10Hz-100kHz (within +0, -1.5dB)
Tone Control:
     Treble
                                    +8dB at 10kHz
     Bass
                                    +8dB at 100Hz
Loudness:
     Volume-30dB
                                    +8dB at 100Hz
Dimensions:
                                    453(W) \times 317(D) \times 111(H) mm
                                    (17.8"x12.5"x4.4")
Weight:
     Net
                                    6.7kgs
     Gross
                                    8.0kgs
Power Consumption:
                                    120V 2A
                                    (CSA rated)
```

Specifications and appearance design subject to without notice.

